

Application No. 10/584,694
Amendment Dated: May 2, 2011
Reply to Office Action Dated February 1, 2011

Remarks

Claims 1-27 are pending.

Claims 1-27 stand rejected.

Claims 1, 6, 21, 26 and 27 have been amended.

Claims 2, 4, 7 and 8 have been cancelled.

Claims 1, 3, 5-6 and 9-27 are submitted herein for review.

No new matter has been added.

In the first section of the Office Action, the Examiner has objected to claims 3 and 5 because of informalities. Applicants have amended the claims accordingly and respectfully request that these objections be withdrawn.

The Examiner has rejected claims 6 and 9-20 under 35 U.S.C. 112 as being indefinite. Applicants have amended independent claim 6 accordingly and request that this rejection be withdrawn.

Turning to the prior art, the Examiner has rejected independent claims 1, 6, 21, and 26 under 35 U.S.C. § 103(a) as being unpatentable over Leist et al. (U.S. Patent No. 5,282,521). Applicants respectfully disagree with the Examiner and submit the following remarks in reply.

Independent claims 1, 21 and 26 include, among other elements , the feature of the one

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or more shells delimiting one or more through openings, in which the total area of opening of the through openings is less than 40% of the total area of the one or more shells including that of the through openings in which the slenderness of the entire connecting structure formed by the one or more shells, including the through openings, expressed as the ratio of thickness to circumferential extension of the entire connecting structure relative to the axis of rotation of the brake disc is between $2/100$ and $4/100$ and where the radial thickness of all shells forming the connecting structure is constant along the entire circumferential extension of the connecting structure.

Regarding claim 6, among other features, this claim includes the feature of the shell-type connecting structure extending substantially along an arc of circle having a radius of 180 mm to 220 mm, in which the average thickness of the shell is between 5 mm and 15 mm and wherein the circumferential extension of the shell-type connecting structure corresponds to an angle of aperture of a sector of circle of between 100° and 130° .

The cited prior art, namely, Leist et al. discloses a floating caliper 70 which is slidably fixed on a pin assemblies 60 which in turn are fixed at a stationary bracket 40. The inboard side wall 92 of caliper 70 does not form any seat for the brake pad. Rather, to the contrary, the inboard brake shoe 31 with backing plate 34 is seated in the reaction contact surface 50 of bracket arm 44.

As such, in the Leist reference, the caliper is not a fixed caliper and does not comprise fixation means which fixate the caliper integral in rotation and in translation. Additionally, only one side wall delimits a seating for a brake pad. The side walls do not absorb the entire clamping force and the entire braking force, because the braking force is transferred by the bracket 40 in

the stirring knuckle 11.

Furthermore, in Leist the radial thickness of the wall of the shells forming the connecting structure is not constant along the entire circumferential extension of the connecting structure. In Leist, the bridge section 93 forms a pressure contact area 81 which acts as an abutment surface for the contact surface 48 of the bracket arm 42. Consequently, the thickness of the bridge section 93 is increased at the end regions of the bridge section with respect to the shells crown 81.

Moreover, although the Leist reference aims to reduce the amount of metal and the weight of the caliper, the present arrangement provides an additional advantage by obtaining an increase of the available brake disc diameter for a given wheel-rim diameter in order to improve the brake performance. Therefore, the objective of Leist, to save material and to reduce the weight of the caliper and the arrangement of a floating caliper structure with increased thickness end regions of the bridge sections, teaches away from the combination of elements as claimed in independent claim 1 which on the contrary maximizes the brake disc space for a given wheel-rim diameter. By maximizing the brake disc space it is possible to use a greater brake disc and to apply a greater braking moment.

As such, the cited prior art, namely, Leist does not teach or suggest all the elements of the present independent claims. For example, there is no teaching or suggestion of a *“a fixed caliper...in which each of said side walls delimits at least one seating capable of accommodating at least one pad and in which the caliper comprises thrust means capable of forcing the pads against the brake disc...and the radial thickness of all shells forming said connecting structure is constant along the entire circumferential extension of said connecting*

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structure.”

For at least this reason, Applicants request that the rejection of independent claims 1, 6, 21 and 26 be withdrawn. As claims 3, 5, 9-20 and 22-25 depend from claims 1, 6 and 21 these claims should be allowed for at least the same reason.

In view of the foregoing, Applicants respectfully submit that pending claims 1, 3, 5-6 and 9-27 are in condition for allowance, the earliest possible notice of which is earnestly solicited. If the Examiner feels that an interview would facilitate the prosecution of this Application he is invited to contact the undersigned at the number listed below.

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Respectfully submitted,

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